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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,682	04/16/2001	John Malcolm Gascoyne	JMYT-235US	2328

23122 7590 07/18/2003

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EXAMINER

RUTHKOSKY, MARK

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 07/18/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/807,682

Applicant(s)

GASCOYNE ET AL.

Examiner

Mark Ruthkosky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. The reference is a 371 application of PCT/GB99/03269.

Information Disclosure Statement

The information disclosure statement filed 4/16/2001 has been placed in the application file, and the information referred to therein has been considered as to the merits.

Drawings

No drawings have been filed in the instant application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 1-5, 13 and 16-23 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 791,974.

The instant claims are to a process for preparing a solid polymer electrolyte membrane comprising an ion-conducting polymer, a catalyst, and a high-surface area supported material. The process includes associating the catalyst with the support material to form a catalyzed support and combining the catalyzed support with the ion-conducting polymer.

EP 791,974 teaches a to a process for preparing a solid polymer electrolyte membrane comprising an ion-conducting polymer, a catalyst, and a high-surface area supported material (see for example col. 9, l. 1-35.) The process includes associating a 40% platinum catalyst with the support material and combining the catalyzed support with the ion-conducting polymer (Nafion) in water. Thus, the claims are anticipated.

Claims 1-4, 11-12, 16 and 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Cisar et al. (US 5,635,039.)

Cisar et al. (US 5,635,039) teaches a to a process for preparing a solid polymer electrolyte membrane comprising an ion-conducting polymer, a catalyst, and a high-surface area supported material (see claims 9-33.) A platinum catalyst is added to a support material that may be titanium oxide and combining the catalyzed support with the ion-conducting polymer (Nafion) in water, (example 1.) The material is then bonded to an ion exchange membrane. Thus, the claims are anticipated.

Claims 1-4, 11-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Denton et al. (US 6,042,958.)

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Denton et al. (US 6,042,958) teaches a process for preparing a solid polymer electrolyte membrane comprising an ion-conducting polymer, a catalyst, and a high-surface area supported material (see claims 1-28.) The membrane is a mixture of a porous substrate of fibers and at least one ion-conducting polymer. Glass, silica, ceramic, quartz and other materials are noted as the fibers. A catalyst, such as platinum, may be added to a support material oxide (see claim 12 and col. 5, l. 15-40) the fibers are combined with the ion-conducting polymer (Nafion) in an aqueous solution, (see the examples.) The fibers have a diameter of 0.1-50 μm . A solution of perfluorsulfonic acid is added to the fibrous material (see the examples.)

Thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denton et al. (US 6,042,958), as applied to claims 1-4, 11-22 in view of EP 875,524.

The teachings of Denton et al. (US 6,042,958) have been disclosed. With regard to claims 6-7, the reference does not teach an amount of catalyst to be deposited on the support to be from 1-25%. With regard to claims 8-10, the reference does not teach the amount of catalyst to be incorporated into the membrane to be lower than 0.1 mg/cm^2 . EP 875,524 teaches a carbon supported Pt catalyst with a loading of 0.25 mg/cm^2 , which will amount to less than 25% of the

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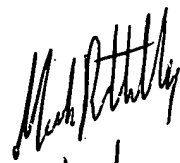
electrode weight. The amount of catalyst in the electrode will be directly proportionate to the amount of catalyst in the MEA. It would be obvious to one of ordinary skill in the art at the time the invention was made to alter the amount of catalyst on the support material in order to achieve optimal catalyzation of the fuel cell reactants. One of ordinary skill in the art would have an understanding of the amounts of catalyst necessary to react with the fuel and oxidant gasses based on the teachings of EP 875,524. The artesian would have found the claimed invention to be obvious in light of the teachings of the references.

Examiner Correspondence

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1193. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 703-305-0587. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:00.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 703-308-2383.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Mark Ruthkosky
Patent Examiner
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7/14/03